

**GEORGIA ALIGNMENT FOR NIH SUPPLEMENT CELL BIOLOGY AND CANCER**

<b>CELL BIOLOGY AND CANCER</b>		
<b>Georgia Science Performance Standards – Biology and Anatomy &amp; Physiology</b>		
<b>Activity</b>	<b>Standard</b>	<b>Description</b>
<b>2, 4</b>	<b>SCSh1</b>	Evaluate the importance of curiosity, honesty, openness, and skepticism in science.
<b>1, 2, 3, 4</b>	<b>SCSh1.b</b>	Recognize that different explanations often can be given for the same evidence.
<b>2, 3, 4</b>	<b>SCSh1.c</b>	Explain that further understanding of scientific problems relies on the design and execution of new experiments, which may reinforce or weaken opposing explanations.
<b>4</b>	<b>SCSh2.a</b>	Follow correct procedures for use of scientific apparatus.
<b>3, 4</b>	<b>SCSh2.b</b>	Demonstrate appropriate technique in all laboratory situations.
<b>2, 3, 4</b>	<b>SCSh3</b>	Identify and investigate problems scientifically.
<b>2, 3, 4</b>	<b>SCSh3.a</b>	Suggest reasonable hypotheses for identified problems.
<b>3, 4</b>	<b>SCSh3.b</b>	Develop procedures for solving scientific problems.
<b>1, 2, 3, 4</b>	<b>SCSh3.c</b>	Collect, organize and record data appropriately.
<b>1, 2, 3, 4</b>	<b>SCSh3.d</b>	Graphically compare and analyze data points and/or summary statements.
<b>All activities</b>	<b>SCSh3.e</b>	Develop reasonable conclusions based on data collected.
<b>1, 2, 3, 4</b>	<b>SCSh3.f</b>	Evaluate whether conclusions are reasonable by reviewing the process and checking against other available information.
<b>3</b>	<b>SCSh4.b</b>	Use technology to produce tables and graphs.
<b>3</b>	<b>SCSh4.c</b>	Use technology to develop, test, and revise experimental or mathematical models.
<b>3</b>	<b>SCSh5.d</b>	Express appropriate numbers of significant figures for calculated data, using scientific notation where appropriate.
<b>3, 4</b>	<b>SCSh6.a</b>	Write clear, coherent laboratory reports related to scientific investigations.
<b>1, 2, 3, 4</b>	<b>SCSh6.b</b>	Write clear, coherent accounts of current scientific issues, including possible alternative interpretations of the data.
<b>All activities</b>	<b>SCSh6.c</b>	Use data as evidence to support scientific arguments and claims in written or oral presentations.

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<b>All activities</b>	<b>SCSh6.d</b>	Participate in group discussions of scientific investigation and current scientific issues.
<b>2</b>	<b>SCSh7.c</b>	From time to time, major shifts occur in the scientific view of how the world works. More often, however, the changes that take place in the body of scientific knowledge are small modifications of prior knowledge. Major shifts in scientific views typically occur after the observation of a new phenomenon or an insightful interpretation of existing data by an individual or research group.
<b>2, 3, 4</b>	<b>SCSh7.d</b>	Hypotheses often cause scientists to develop new experiments that produce additional data.
<b>2, 3, 4</b>	<b>SCSh7.e</b>	Testing, revising, and occasionally rejecting new and old theories never ends.
<b>2, 3</b>	<b>SCSh9.a</b>	Read technical texts related to various subject areas.
<b>2, 3, 4</b>	<b>SCSh9.c</b>	Demonstrate an understanding of contextual vocabulary in various subjects, use content vocabulary in writing and speaking, and explore understanding of new words found in subject area texts.
<b>2, 3, 4</b>	<b>SB2.b</b>	Explain the role of DNA in storing and transmitting cellular information.
<b>1, 2, 3, 4</b>	<b>SB2.d</b>	Describe the relationships between changes in DNA and potential appearance of new traits including alterations during replication (insertions, deletions, substitutions), and mutagenic factors that can alter DNA (high energy radiation- x-rays and ultraviolet, and chemical.)
<b>2, 3</b>	<b>SAP1.c</b>	Explain the role of homeostasis and its mechanisms as these relate to the body as a whole and predict the consequences of the failure to maintain homeostasis.
<b>2, 3</b>	<b>SAP1.d</b>	Relate cellular metabolism and transport to homeostasis and cellular reproduction.
<b>Georgia Mathematics Performance Standards – Mathematics I</b>		
<b>Activity</b>	<b>Standard</b>	<b>Description</b>
<b>3</b>	<b>MM1D1.a</b>	Apply the addition and multiplication principles of counting.
<b>1, 3</b>	<b>MM1P1.b</b>	Solve problems that arise in mathematics and in other contexts.
<b>1, 3</b>	<b>MM1P1.c</b>	Apply and adapt a variety of appropriate strategies to solve problems.
<b>1, 3</b>	<b>MM1P4.c</b>	Recognize and apply mathematics in contexts outside of mathematics.
<b>1, 3</b>	<b>MM1P5.a</b>	Create and use representations to organize, record, and communicate mathematical ideas.
<b>3</b>	<b>MM1P5.b</b>	Select, apply, and translate among mathematical representations to solve problems.
<b>1, 3</b>	<b>MM1P5.c</b>	Use representations to model and interpret physical, social, and mathematical phenomena.

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<b>Georgia English Language Arts Performance Standards – Grades 9 &amp; 10</b>		
<b>Activity</b>	<b>Standard</b>	<b>Description</b>
<b>All activities</b>	<b>ELA9RC1 ELA10RC1</b>	Read both informational and fictional texts in a variety of genres and modes of discourse, including technical texts related to various subject areas.
<b>All activities</b>	<b>ELA9RC2 ELA10RC2</b>	Participates in discussions related to curricular learning in all subject areas.
<b>2, 3, 4, 5</b>	<b>ELA9RC3.a ELA10RC3.a</b>	Demonstrates an understanding of contextual vocabulary in various subjects.
<b>2, 3, 4, 5</b>	<b>ELA9RC3.b ELA10RC3.b</b>	Uses context vocabulary in writing and speaking.
<b>2, 3, 4, 5</b>	<b>ELA9RC3.c ELA10RC3.c</b>	Explores understanding of new words found in subject area texts.
<b>1, 2, 4, 5</b>	<b>ELA9RC4.a ELA10RC4.a</b>	Explores life experiences related to subject area content.
<b>All activities</b>	<b>ELA9W1.b ELA10W1.b</b>	Selects a focus, structure, and point of view relevant to the purpose, genre, expectations, audience, length, and format requirements.
<b>2, 3, 4, 5</b>	<b>ELA9W1.f ELA10W1.f</b>	Uses traditional structure for conveying information (i.e., chronological order, cause and effect, similarity and difference, and posing and answering a question).
<b>All activities</b>	<b>ELA9W1.g ELA10W1.g</b>	Supports statements and claims with anecdotes, descriptions, facts and statistics, and specific tasks.
<b>2, 3, 4</b>	<b>ELA9W2 ELA10W2</b>	Produces technical writing that reports technical information and/or conveys ideas clearly, logically, and purposefully to a particular audience.
<b>2, 3, 4</b>	<b>ELA9W3.b ELA10W3.b</b>	Uses supporting evidence from multiple sources to develop the main ideas within the body of an essay, composition, or technical document.
<b>All activities</b>	<b>ELA9C1.a ELA10C1.a</b>	Demonstrates an understanding of proper English usage and control of grammar, sentence and paragraph structure, diction, and syntax.
<b>All activities</b>	<b>ELA9C1.c ELA10C1.c</b>	Demonstrates an understanding of sentence construction and proper English usage.

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<b>All activities</b>	<b>ELA9C2.b ELA10C2.b</b>	Produces legible work that shows accurate spelling and correct use of the conventions of punctuation and capitalization.
<b>All activities</b>	<b>ELA9LSV1.a ELA10LSV1.a</b>	Initiates new topics and responds to adult-initiated topics.
<b>All activities</b>	<b>ELA9LSV1.b ELA10LSV1.b</b>	Asks relevant questions.
<b>All activities</b>	<b>ELA9LSV1.c ELA10LSV1.c</b>	Responds to questions with appropriate information.
<b>All activities</b>	<b>ELA9LSV1.d ELA10LSV1.d</b>	Actively solicits another person's comments or opinions.
<b>All activities</b>	<b>ELA9LSV1.e ELA10LSV1.e</b>	Offers own opinion forcefully without domineering.
<b>All activities</b>	<b>ELA9LSV1.f ELA10LSV1.f</b>	Volunteers contributions and responds when directly solicited by teacher or discussion leader.
<b>All activities</b>	<b>ELA9LSV1.g ELA10LSV1.g</b>	Gives reasons in support of opinions expressed.
<b>3, 4, 5</b>	<b>ELA9LSV1.i ELA10LSV1.i</b>	Employs group decisions-making techniques such as brainstorming or a problem-solving sequence (i.e., recognizes problem, defines problem, identifies possible solutions, selects optimal solution, implements solution, evaluates solution).
<b>All activities</b>	<b>ELA9LSV2.c</b>	Formulates judgments about ideas under discussion and supports those judgments with convincing evidence.
<b>National Health Education Standards – Grades 9 – 12: cited from pre-publication document of National Health Education Standards, Pre K-12, American Cancer Society, December 21005 – August 2006</b>		
<b>Activity</b>	<b>Standard</b>	<b>Description</b>
<b>1, 5</b>	<b>1.12.1</b>	Predict how healthy behaviors can impact health status.
<b>1, 2</b>	<b>1.12.4</b>	Analyze how genetics and family history can impact personal health.
<b>4, 5</b>	<b>1.12.5</b>	Propose ways to reduce or prevent injuries and health problems.
<b>5</b>	<b>1.12.7</b>	Compare and contrast the benefits and barriers to practicing a variety of healthy behaviors.

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5	1.12.9	Analyze the potential severity of injury or illness if engaging in unhealthy behaviors.
1, 5	2.12.1	Analyze how family influences the health of individuals.
5	2.12.3	Analyze how peers influence healthy and unhealthy behaviors.
4, 5	2.12.5	Evaluate the effect of media on personal and family health.
1, 5	2.12.8	Analyze the influence of personal values and beliefs on individual health practices and behaviors.
1, 4, 5	2.12.9	Analyze how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
4, 5	2.12.10	Analyze how public health policies and government regulations can influence health promotion and disease.
2, 4, 5	3.12.1	Evaluate the validity of health information, products, and services.
5	5.12.1	Examine barriers that can hinder healthy decision-making.
5	5.12.2	Determine the value of applying a thoughtful decision-making process in health related situations.
5	5.12.3	Justify when individual or collaborative decision-making is appropriate.
5	5.12.5	Predict the potential short and long-term impact of each alternative on self and others.
5	5.12.6	Defend the healthy choice when making decisions.
5	5.12.7	Evaluate the effectiveness of health-related decisions.
5	7.12.1	Analyze the role of individual responsibility for enhancing health.
5	7.12.2	Demonstrate a variety of healthy practices and behaviors that will maintain or improve the health of self and others.
5	7.12.3	Demonstrate a variety of behaviors to avoid or reduce health risks to self and others.
5	8.12.2	Demonstrate how to influence and support others to make positive health choices.
5	8.12.4	Adapt health messages and communication techniques to a specific target audience.